cc: Louise

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Contra Costa County

Catherine O. Kutsuris
Director

January 4, 2012

Dr. Richard Norgaard, Chair
Delta Independent Science Board
980 Ninth Street, Suite 1500
Sacramento, CA 95814

Re: Comments regarding Delta ISB Review of Science Programs for the Delta

Dear Chair Norgaard:

I am writing in regard to the Independent Science Board's review of Delta science programs. I appreciate the Board's efforts to assess the state of Delta science and identify areas where improvements are needed.

The quality of Delta science is critically important to Contra Costa County. We are surrounded on three sides by water -- to our east is the Sacramento-San Joaquin River Delta, to our west is the San Francisco Bay, and to our north is the Carquinez Strait that links the Delta and Bay. The County has four cities and five unincorporated communities within the statutory Delta area. Contra Costa County has a real stake in issues affecting the Delta such as water quality, Delta flow standards, invasive weeds and species, and water supply. Our residents in the eastern part of the County live, fish, farm, boat and swim in the Delta. Approximately one third of the County's residents and businesses receive their drinking water from the Delta.

Due to the importance of the Delta to Contra Costa County, I asked our Delta scientific consultant, Dr. Richard A. Denton, to attend the Independent Science Board (ISB) meeting on December 1 focusing on the state of Delta science.

Based on my subsequent conversations with Dr. Denton and my general understanding of the current situation, I offer the following comments to the ISB regarding the scientific research, monitoring, and assessment programs that support adaptive management of the Delta.

1. **More analysis of ecosystem data is needed.** Delta science has not adequately met the challenges of water and environmental management in the Delta. In particular, science has not yet provided us with an adequate understanding of the factors that decrease the numbers of various fish species in the Delta. In the San Francisco Bay-Delta region the problem is well known -- changes to the Delta ecosystem have caused rapid declines in a number of key fish populations. Monitoring programs, such as the Interagency Ecological Program, are in place and have collected a wealth of data – possibly more data than for any other estuary in the world. However, to solve complex scientific problem like those that plague the Delta, it is not enough to set up an experiment and collect data. It is also necessary to review and analyze the data and develop

quantitative relationships that can be used by regulators and decision makers. As discussed at the December 1st ISB meeting, there has not been enough follow-through to assign and fund scientists to independently synthesize and analyze the data.

2. **A concerted effort is needed.** While many highly qualified biologists and engineers have worked with some of the Bay-Delta data, it is often under short-deadline or "combat" conditions preparing actions for a Biological Opinion or exhibits for a lawsuit. These biologists and engineers typically have other duties that don't allow them the time to focus on developing an understanding of what is really affecting the fish. This has kept the scientific community from adequately addressing the Delta's problems.

3. **A small portion of BDCP resources could pay for an adequate science program.** The Bay-Delta Conservation Plan is proposing to spend as much as $12-15 billion on a large conveyance project that could seriously harm rather than benefit the Delta ecosystem. River water will be diverted before it reaches the Delta, additional water may be withdrawn from the Delta itself, and flow will be reduced at a location on the migratory pathway of threatened salmon and steelhead. Instead of devoting a portion of the $12 billion to serious research on what is impacting the Delta ecosystem, the BDCP proponents have assumed that the "*state of the art*" fish screens for the new isolated facility will work; that new ecosystem habitat will offset the adverse effects of reduced flows (when increased flows actually are needed to bring fish to and from the new habitat areas); and that it will not be necessary to screen the biggest unscreened diversions in the South Delta (the export facilities).

4. **Research should be directed at Delta flows, salinity and species populations.** Given the uncertainty over the role of flows and other stressors, the BDCP documents talk in terms of identifying and accepting risk. Rather than simply accepting risk, we suggest it would be better to devote some of the BDCP resources to developing better scientific understanding of the Delta, particularly the relationships between flows, salinity, and species populations. Without a positive approach to science, we will never learn what is causing the decline. BDCP also assumes that future errors will be corrected using adaptive management without devoting sufficient resources to develop the necessary quantitative scientific relationships to guide that adaptive management.

5. **Support the testimony of the U.S. Fish & Wildlife Service.** We agree with many of the points made by Dr. Ken Newman of the U.S. Fish and Wildlife Service in his January 19, 2011 letter to the ISB. Dr. Newman pointed out the huge backlog of data, particularly from years of fish surveys and water monitoring, that needs to be sorted, sifted, integrated and synthesized (i.e."analyzed"). He particularly noted the lack of adequate forecasting models for predicting the consequences of management actions or inactions on the Delta ecosystem. Dr. Newman suggested a team approach that would include experts in "aquatic organisms (e.g. fish biologists, aquatic ecologists) ... water flows, transport and other dynamics (e.g. hydrologists) ... pollutants and contaminants (e.g. toxicologists, soil scientists) ... population dynamics (e.g. quantitative ecologists, mathematicians), and ... data and software to formulate, fit and evaluate models (e.g. statisticians and computer scientists)." The cost of doing so, he wrote, would be small compared to the billions of dollars that have been spent on "data collection, engineering and habitat restoration projects and adversarial activities (e.g. lawsuits)."

6. **Next Steps.** We agree the Delta science situation calls for a large, intensive, multi-disciplinary effort. We offer the following suggestions to help turn vast amounts of data into useful knowledge.

- The ISB should recommend that the budget of the Delta Science Program be increased to hire a sufficient number of biologists, engineers and statisticians dedicated to synthesizing, analyzing and explaining existing and future Bay-Delta data. To be fully independent, these additional scientists would need to be in a separate organizational group than the other Delta science staff responsible for managing consultants, peer review panels, and supporting the ISB.

- Funding would need to be identified. It is worth noting that the cost would amount to only a fraction of the proposed $12 billion to $15 billion investment in the BDCP.

- State and federal agencies could be asked to lend some of their scientists to this effort, if their staff resources permit.

- The scientific effort should have two goals. One goal would be to develop quantitative relationships explaining the role of flows, exports, and other stressors on the decline of Delta fish populations and other Delta indicators. A second goal would be to use this understanding of the Delta to develop new operating criteria for Delta outflow, Sacramento River at Rio Vista flow, San Joaquin River at Vernalis flow, bypass flow requirements for the proposed new north or west Delta intake facilities, as well as other criteria for eliminating the adverse effects of flow reductions, exports and other stressors.

Contra Costa County appreciates this opportunity to provide input to the Delta Independent Science Board on this important issue. If you have any questions, please contact me at (925) 335-1201 or John.Greitzer@dcd.cccounty.us.

Sincerely,

John Greitzer
Contra Costa Water Agency Staff

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Cc: Supervisor Mary N. Piepho, Delta Protection Commission representative
Supervisor Karen Mitchoff, alternate Delta Protection Commission representative
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Steven L. Goetz, Deputy Director, Conservation, Redevelopment and Transportation Planning Programs
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